
O*NET® Interest Profiler Short Form Paper- and-Pencil Version: Evaluation of Self- Scoring and Psychometric Characteristics

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Table of Contents

List of Tables.....	3
List of Figures.....	4
Executive Summary.....	5
Introduction.....	7
Method.....	8
Results.....	9
Concluding Comments.....	11
References.....	12
Tables.....	14
Figures.....	29
Appendix A: Demographic and Career Plans Survey Items	32
Appendix B: Interest Profiler Short Form Paper-and-Pencil Version	34

LIST OF TABLES

Table 1. Description of Incarcerated Sample.....	15
Table 2. Description of School Sample.....	16
Table 3. Distribution of Difference Scores between Self-Scores and Actual Scores across RIASEC Scales for Incarcerated Sample.....	17
Table 4. Distribution of Difference Scores between Self-Scores and Actual Scores across RIASEC Scales for School Sample.....	18
Table 5. Cross Classification of Self-Reported RIASEC High-Point Code with Actual High-Point Code for Incarcerated Sample.....	19
Table 6. Cross Classification of Self-Reported RIASEC High-Point Code with Actual High-Point Code for School Sample.....	20
Table 7. Means, Standard Deviations, and Coefficient Alphas for Interest Profiler Short Form (P &P) for Incarcerated Sample.....	21
Table 8. Profile Correlations of the Interest Profiler Short Form (P & P).....	22
Table 9. RIASEC Scale Intercorrelations for the Interest Profiler Short Form (P & P) for Incarcerated Sample.....	23
Table 10. Two-Dimensional MDS Coordinate Values for the Interest Profiler Short Form (P & P) for Incarcerated Sample.....	24
Table 11. Circular Unidimensional Scaling Coordinate Values for the RIASEC Scales of the Interest Profiler Short Form (P & P) for Incarcerated Sample.....	25
Table 12. Cross Classification of the RIASEC High Point Codes for the Interest Profiler Short Form (P & P) and Career Aspirations for Incarcerated Sample.....	26
Table 13. Gender Differences (<i>d</i>-values) by RIASEC Scale Score for Incarcerated Sample.....	28

LIST OF FIGURES

Figure 1. Multidimensional Scaling Solution for the Interest Profiler Short Form (P & P) for Incarcerated Sample.....	30
Figure 2. Circular Unidimensional Scaling Solution for the Interest Profiler Short Form (P & P) for Incarcerated Sample.....	31

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Executive Summary

The O*NET Interest Profiler is one of several O*NET Career Exploration Tools designed for career counseling, career planning, and career exploration. The O*NET Interest Profiler (Lewis & Rivkin, 1999) is an inventory that assesses occupational interests according to Holland's (1997) personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). The Interest Profiler (IP) has a 20-year history beginning with the development of the 180-item, self-scored, paper-and-pencil form (Rounds, Walker, Day, Hubert, Lewis, & Rivkin, 1999). Shortly afterwards the IP was computerized (Rounds, Mazzeo, Smith, Hubert, Lewis, & Rivkin, 1999). In 2010, Rounds, Su, Lewis, and Rivkin developed a 60-item short form of the IP using iterative multidimensional scaling and item evaluation by trained judges. In 2016, a Mini Interest Profiler (Rounds, Wee, Cao, Song, & Lewis, 2016) was developed for mobile devices that can be linked to O*NET. Because three Interest Profilers have been developed, each with several versions, O*NET has developed the following labeling conventions:

1. O*NET Interest Profiler Long Form (IP Long Form; 180 items)
 1. Paper-and-pencil version
 2. Computerized version
2. O*NET Interest Profiler Short Form (IP Short Form; 60 items)
 1. Paper-and-pencil version
 2. Web-based version
3. O*NET Mini Interest Profiler (Mini-IP; 30 items)
 1. Mobile version

The IP Short Form, Web-based version, is currently delivered through *My Next Move* (<https://www.mynextmove.org/>). In addition to being delivered through *My Next Move*, private and public organizations and application developers are encouraged to incorporate the IP using O*NET Web Services (<https://services.onetcenter.org/>) or by leveraging the available technical reports. Use of the Interest Profiler has increased dramatically after its introduction as a Web-based measure on the *My Next Move* site. The *My Next Move* sites average over one million visits per month (U.S. Department of Labor, Employment and Training Administration O*NET® Data Collection Program, 2018; Available at https://www.onetcenter.org/dl_files/omb2018/Supporting_StatementA.pdf). The broad utility of the Interest Profiler plays an important role in developing and maintaining a skilled workforce and contributes to U.S. competitiveness in a global, 21st-century economy. For each form (Long, Short, Mini) and version (Paper-and-Pencil, Web-based) of the Interest Profiler, research has been conducted to evaluate the psychometric properties of the RIASEC scores. These studies have been reported in an ongoing series of research reports (<https://www.onetcenter.org/research.html>).

This report summarizes initial research into the self-scoring accuracy and psychometric properties of a Paper-and-Pencil (P & P) version of the Interest Profiler Short Form. The main difference between the P & P version and the Web-based version is the method of scoring and

response scale. For the P & P version, the participant is asked to check *activities you would like to do*. These checked activities for each RIASEC type are summed yielding raw scores. The self-scoring P & P version of the Interest Profiler is necessary for multiple situations where computers are unavailable. Sites that need a paper-and-pencil version are, for example, schools and correctional facilities.

Present analyses of the P & P version of the IP Short Form scores are conducted on samples administrated in schools ($N = 140$) and correctional facilities ($N = 424$). These samples were selected because computer access is often limited in schools and correctional facilities making the P & P version a viable choice for administering the IP. Most importantly, analyses of self-scoring accuracy indicate that the respondents have few difficulties adding their scores for each scale and reporting the correct RIASEC high-point code. Together with the results of previous studies on the psychometric properties of the Web-based version of the Interest Profiler Short Form, the current report supports the validity and internal consistency reliability of the Paper-and-Pencil version. In summary, a Paper-and-Pencil (P & P) version of the 60-item Interest Profiler Short Form can be used in settings where it is useful to have an interest measure that can be completed without computers in a short amount of time. The present research findings should generalize to other settings with limited access to computers where the P & P measure would be useful.

Introduction

The purpose of the present report is to evaluate psychometric characteristics of the Paper-and-Pencil version of the Interest Profiler Short Form. Currently, the Interest Profiler Short Form is a Web-based version available through the *My Next Move* website (<https://www.mynextmove.org/>) with 10 items per RIASEC scale, 60 items in total. A Paper-and-Pencil version of the 60-item Interest Profiler Short Form was developed for use in settings where it is necessary to have an interest measure that can be completed without computers in a short amount of time. Sites that need a paper-and-pencil form are, for example, schools and correctional facilities. It should be noted that the IP P & P and current IP Web-based versions have the same 60 items. Both IP versions, however, have one item that is different from the original developmental version of the Web-based IP (Rounds, Su, Lewis, & Rivkin, 2010). The one revised item is from the Social scale (New item: “Teach sign language to people who are deaf or hard of hearing”. Old item: “Teach sign language to people with hearing disabilities”; c.f., Dunn & Andrews, 2015).

The P & P version of the O*NET Interest Profiler Short Form has a simple self-scoring format. The instrument is completed on a single sheet (one-sided). The 60 items are organized into color-coded rows with two columns of 5 items for each RIASEC type. The participant sums the number of checked boxes for each RIASEC scale then reports the three interest areas with the highest scores as their interest profile. A separate score report is used to help participants interpret their RIASEC profile. The score report asks participants to copy their three-letter interest code from the IP instrument and then provides definitions and examples for the RIASEC types. Participants are also presented with a description of job zones (i.e., education, experience, and training preparation levels) and are asked to report their current and future job zone. Instructions are then provided for how to explore occupations that fit their interest scores and job zones using *My Next Move* (<https://www.mynextmove.org/>).

A minor difference between the P & P and Web-based versions is related to self-scoring; that is, the response format. The P & P version uses a dichotomous response format where participants check the activities they would like to do and then sum the total number of checks to compute their scores for each RIASEC scale. This differs from the Web-based version that uses 5-point, emoji scale anchors (Rounds, Phan, Amrhein, & Lewis, 2016) with RIASEC scale scores summed by a computer algorithm.

A central concern for the present report is the accuracy in scoring the RIASEC scales of the IP Paper-and-Pencil version. The instrument was developed so that there would be few possibilities for errors to occur during manually scoring. For the 6 RIASEC scores to be scored, only simple counting skills (number of boxes checked) are necessary. Identifying and transferring RIASEC scores to a rank order of highest score to lowest score is clearly explained. A secondary concern with the P & P self-scoring IP is the change in item format from a 5-point scale to an item checklist format. The aim of this report is to evaluate these concerns and report on the psychometric characteristics of the P & P version. To address these concerns, we collected two samples that are most relevant to self-scoring paper-and-pencil interest inventories—high school students and individuals who are incarcerated.

Method

Participants

Two datasets were used to evaluate the IP Short Form P & P version. The individuals who are incarcerated (referred to as the incarcerated sample; $N = 421$) serve as the primary dataset used to evaluate psychometric characteristics and self-scoring accuracy. Table 1 displays the demographic characteristics of the participants in the incarcerated sample. Participants were surveyed at a range of correctional facilities located in the Eastern United States. The incarcerated individuals sample was 69% male and 31% female and 85% of the participants were between the ages of 23 to 50 (M age = 35.19; $SD = 9.99$). The breakdown of race and ethnicity was 56% White, 32% Hispanic, 8% American Indian or Alaska Native, 15% African American, and 3% other.

The second sample, a school sample ($N = 140$), was only used to evaluate self-scoring since the sample is small and was collected under nonstandard conditions. Table 2 depicts the characteristics of the school participants after removing seven outliers who were substantially older than the rest of the sample (i.e., age 25 and above). After removing seven outliers older than age 25, the sample was 55% male and 45% female and the majority of students (73%) were 16-18 years old when tested. The breakdown of race and ethnicity in the school sample was 52% White, 35% Hispanic, 11% American Indian or Alaska Native, 10% African American, and 8% other.

Self-Scoring, Reliability, and Validity Analyses

To evaluate participants' ability to self-score the IP Short Form P & P version, difference scores were estimated between participant's self-scored and actual scores for each RIASEC scale. In addition, a cross-classification analysis was conducted to assess error rates in high-point codes. The cross-classification analysis compared participants' self-scored primary interest area versus the actual primary interest area scored by the research team.

Second, to examine the internal consistency reliability of the IP, coefficient alphas were calculated for each RIASEC scale. Means and standard deviations were also calculated for each RIASEC scale.

Third, several analyses were conducted to examine the validity of the IP. First, profile correlations (see Gregory & Lewis, 2016) were estimated between scores on the IP and the interest profiles of self-reported career aspirations and last jobs. Self-reported career aspirations and last jobs were collected as part of the survey shown in Appendix B. Responses were coded into occupational categories from the O*NET-SOC 2010 Taxonomy (see: <https://www.onetcenter.org/taxonomy.html> or <https://www.onetcenter.org/reports/Taxonomy2010.html>) by three expert raters. The agreement rates among coders were 81%. Codes that did not match were flagged and recoded in a second round. After the coding process was completed, O*NET interest profiles for each coded occupation were merged with the full dataset. The RIASEC profiles of self-reported last job and career aspirations were compared to Interest Profiler RIASEC profiles for evidence to support the validity of the RIASEC scores.

Fourth, to evaluate the structural validity of the IP, a randomization test of hypothesized order (Rounds, Tracey, & Hubert, 1992) was conducted on the correlation matrix of the RIASEC scales, assuming Holland's circular model (Holland, 1997). In addition, multidimensional scaling (MDS) and circular unidimensional scaling (CUS; Armstrong, Hubert, & Rounds, 2003) were conducted to display the inter-relations among the RIASEC scales.

Finally, to evaluate the comparability of scores obtained on the IP with participants' career aspirations, cross-classifications were examined between RIASEC high-point codes from the IP and career aspirations. Gender differences in RIASEC scales were also calculated.

Results

Self-Scoring

To evaluate self-scoring of the IP Short Form P & P version, participants' self-scored interests were compared to their actual scores that were coded by the research team. Difference scores were calculated for each RIASEC scale to determine whether participants counted the number of likes correctly. The difference score equals the participant's self-score minus the "true" score. When the difference score is positive or negative, a miscount by the participant occurred. A positive difference score showed that the participant over counted; that is, the participant recorded more than the actual count of like responses. A negative difference score showed that the participant under counted; that is, the participant recorded too few like responses.

Tables 3 and 4 display the distribution of difference scores by RIASEC scales in the incarcerated and school samples, respectively. Among the 421 incarcerated participants who took the IP P & P version, only 1-3 participants, depending on the RIASEC scale, failed to record summed scores for a RIASEC scale (see the missing cases row). As shown in Table 3 and 4, self-scoring rates were highly accurate in both samples. Across the RIASEC scales, between 97% and 99% of participants correctly summed their scores for each RIASEC scale. In addition, the vast majority of mis-counted summed scores were within +1 or -1 of the actual score.

The second possible self-scoring error concerns participants' ability to accurately report their high-point code based on the participants summed scores from the six RIASEC scales. Tables 5 and 6 display the results of the cross-classification analyses conducted on the self-reported high-point code from the IP P & P version. The self-reported high-point RIASEC code was compared to the actual high-point code scored by the research team. These results indicate very high accuracy in the primary codes obtained from self-scored reports. As shown in Table 5, over 97% of the incarcerated sample correctly listed their high-point code. The results were similar for the school sample (Table 6) as 98% of participants correctly listed their high-point code. Overall, the results of the self-scoring analyses indicate that the instrument is easy to score and showed higher accuracy rates of self-scoring compared to other well-known interest inventories (e.g., Self-Directed Search, Miller, 1997) and self-scoring psychological assessments (Simons, Goddard, & Patton, 2002).

Reliability Evidence

Table 3 presents coefficient alphas for the IP P & P for the incarcerated sample, the internal consistency estimates ranged from .76 to .85 ($M = .80$). These estimates are comparable to the internal consistency estimates of the IP Short Form ($M = .81$; Rounds, Su, Lewis, & Rivkin, 2010) and are sufficient for practical applications. The mean scale scores shown in Table 3 ranged from 2.53 ($SD = 2.63$) for Investigative to 4.20 ($SD = 2.70$) for Enterprising.

Validity Evidence

Table 4 displays the results of the RIASEC profile correlations between the IP P & P profile and the interest profiles associated with participants' career aspirations and their last jobs. Career aspirations represent participants' choice for a job that best fits their interests and were therefore, expected to be more strongly related to interests when compared to last jobs (which may not reflect participants' interests). As expected (see Table 4), the average profile correlation between IP scores and career aspirations ($r = .24$) was higher than the average profile correlation with last jobs ($r = .15$). These results support the convergent validity of the IP RIASEC scores with the interests associated with participants' career plans.

Table 5 displays the intercorrelations of RIASEC scales and the results of the randomization test of hypothesized order. Because of the circular nature of Holland's RIASEC model, it is expected that the correlations decrease as one scale moves farther away from other RIASEC scales along the circular structure. This circular-order correlation pattern holds in the sample of incarcerated individuals. Results from the randomization test show that the IP RIASEC correlations conform to Holland's (1997) circular order structure (also called a hexagon). The correspondence index (CI) is a normalized descriptive statistic indicating the degree to which the ordered predictions are satisfied. The CI varies from -1 to 1, with positive values indicating stronger agreement and 0 indicating chance agreement or disagreement (Rounds et al., 1992). The IP P & P version has a CI of .61 ($p = .02$), which is comparable to the IP Web-based version ($CI = .68$; Rounds, Su, Lewis, & Rivkin, 2010). In addition, the IP P & P correlations fits Holland's model about as well as other RIASEC measures based on the mean CI for the US benchmark sample ($CI = .67$; Rounds & Tracey, 1996).

Table 6 displays the coordinates in two dimensions of the multidimensional scaling conducted on the IP P & P intercorrelations for the sample of incarcerated individuals. A two-dimensional solution fits the data well, explaining 98% of the variation among the RIASEC scales. Figure 1 displays the scale values for the RIASEC scales graphically. A circular RIASEC structure is evident for the IP scales. As shown in the figure, the distance between the Realistic scale and the Investigative and Conventional scales is greater than would be expected given a circular structure, which is a typical finding in the RIASEC structural literature (Rounds & Day, 1999). The circular structure of the RIASEC scales is further supported by the circular unidimensional scaling results, as shown in Table 7. A circular model explains 90% of the variance in the IP P & P, much higher than the cut-off value of 60% that indicates a good model fit (Armstrong, Hubert, & Rounds, 2003). These results indicate that the IP P & P version has a close fit to a circular RIASEC structure.

Table 9 displays the results of the cross-classification analyses on high-point codes from the IP P & P version with the career aspirations of incarcerated individuals. The bolded numbers

along the main diagonals of the table represent agreement cases where the high-point code of the IP P & P and the high-point code of career aspiration matched. In the incarcerated sample, the most common high-point codes from the P & P version were Social ($N = 90$), Realistic ($N = 80$), and Enterprising ($N = 78$). The incarcerated sample characterized by the highest three-letter codes of SRE interests accounts for $248/334 = 74.25\%$ of the sample.

Among career aspirations, Realistic ($N = 146$) was by far the most common high-point code. This, in turn, led to the largest number of agreement cases classified as Realistic by both the IP P & P and career aspirations ($N = 61$). Social ($N = 39$) and Enterprising ($N = 18$) had the next highest frequencies of agreement cases. For the incarcerated sample, their career aspirations are represented by the three-letter codes of RSE accounting for $269/334 = 80.53\%$ of the sample.

The main diagonal of Table 9 shows the hit rate across RIASEC codes. Overall, the hit rate for the IP P & P was $137/334 = 41.02\%$. This hit rate of the incarcerated sample compares favorably with the Self-Directed Search (SDS; Holland, Fritzsche, & Powell, 1994, p. 29) hit rates with career aspirations: hit rates for a variety of high school and college samples for the SDS ranged from 39.6% to 66.4%. The present hit rates of the incarcerated sample are at the lower end of this SDS distribution. It remains to be seen, if this lower hit rate is measure and/or sample specific. Over two-thirds of the incarcerated sample is older than 30 years. Career aspirations may have different meanings for incarcerated adults than 16-22 year-old students.

Gender Differences

Table 12 displays standardized difference scores (d -values) among RIASEC scales in the incarcerated sample. In the table, negative values indicate stronger male preferences and positive values indicate stronger female preferences. The IP P & P effect sizes show that males have higher scores on the Realistic scale ($d = -1.10$), while females have higher scores on the Social ($d = .58$), Conventional ($d = .37$), Investigative ($d = .26$), and Enterprising ($d = .24$) scales. Gender differences on the Artistic scale are minimal ($d = -.07$). The magnitude of these gender differences is similar to meta-analytic estimates based on other highly regarded vocational interest measures (e.g., Strong Interest Inventory, Self-Directed Search; see Su, Rounds, and Armstrong, 2009). However, the direction of these gender differences differs somewhat from meta-analytic estimates for the Investigative and Artistic scales. According to Su et al. (2009), men typically have stronger scores in Investigative ($d = -.26$), while women typically have stronger scores in Artistic ($d = .35$). The different pattern of gender differences reported here likely results from the unique characteristics of the incarcerated sample.

Concluding Comment

Together with the results of previous studies on the psychometric properties of the Interest Profiler Web-based version (see Rounds et al., 2010), the current report supports the validity and internal consistency reliability of the Interest Profiler P & P version. Most importantly, analyses of self-scoring accuracy indicate that respondents have few difficulties adding their scores for each scale and reporting the correct RIASEC high-point codes.

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TABLES

Table 1. Description of Incarcerated Sample

Characteristic	N	%
Gender		
Male	288	68.57
Female	132	31.43
Age		
19 to 22	22	5.25
23 to 30	112	26.73
31 to 40	159	37.95
41 to 50	84	20.05
51 to 60	38	9.07
61 to 70	4	0.72
> 70	1	0.24
Education		
Less than High School Degree	122	29.33
High school degree or equivalent	186	44.71
Some college, but no degree	86	20.67
Associate's Degree	12	2.88
Bachelor's Degree	6	1.44
Graduate Degree	4	0.96
Ethnicity		
White	234	55.58
Hispanic	135	32.07
American Indian or Alaska Native	35	8.31
Asian	3	0.71
African American	63	14.96
Native Hawaiian or other Pacific Isl.	8	1.90
Employment		
Full-time Employee	92	22.44
Part-time Employee	16	3.90
Not Employed currently	291	70.98
Retired	11	2.68

Note. Ethnicity percentages exceed 100% because participants could select more than one category.

Table 2. Description of School Sample

Characteristic	N	%
Gender		
Male	74	55.40
Female	59	44.60
Age		
15 or less	26	19.55
16 to 18	97	72.93
19 to 22	10	7.52
Grade		
9th grade	34	24.29
10th grade	28	20.00
11th grade	26	18.57
12 grade	45	32.14
Ethnicity		
White	69	0.52
Hispanic	46	0.35
American Indian or Alaska Native	14	0.11
Asian	8	0.06
African American	13	0.10
Native Hawaiian or other Pacific Isl.	2	0.02
Employment (S)		
Currently have a job	25	0.19
Previously had a job	21	0.16
Never had a job	85	0.64

Note. Ethnicity percentages exceed 100% because participants could select more than one category.

Table 3. Distribution of Difference Scores between Self-Scores and Actual Scores across RIASEC Scales for Incarcerated Sample

Difference Score	R Freq	I Freq	A Freq	S Freq	E Freq	C Freq
9	0	0	0	0	1	1
8	1	0	0	0	0	0
7	0	0	1	0	0	0
6	0	0	0	0	0	0
5	0	0	0	0	0	0
4	0	0	1	0	1	0
3	0	0	0	2	0	0
2	1	1	0	0	1	0
1	3	0	2	4	1	4
0	413	415	412	409	413	412
-1	2	3	2	3	3	1
-2	0	0	1	0	0	0
-3	0	0	1	0	0	0
Missing	1	2	1	3	1	3

Note. $N = 421$. Difference scores were calculated by subtracting actual scores from self-reported scores for each RIASEC scale. *Missing* indicates that the respondent did not report a summed score for that scale.

Table 4. Distribution of Difference Scores between Self-Scores and Actual Scores across RIASEC Scales for School Sample

Difference Score	R Freq	I Freq	A Freq	S Freq	E Freq	C Freq
1	0	0	1	0	0	0
0	140	139	138	140	140	140
-1	0	1	1	0	0	0
Missing	0	0	0	0	0	0

Note. $N = 140$. Difference scores were calculated by subtracting actual scores from self-reported scores for each RIASEC scale. *Missing* indicates that the respondent did not report a summed score for that scale.

Table 5. Cross Classification of Self-Reported RIASEC High-Point Code with Actual High-Point Code for Incarcerated Sample

Self	Actual						
	R	I	A	S	E	C	No Answer
R	102	0	0	0	1	0	0
I	1	32	0	0	1	0	0
A	0	0	44	0	0	0	0
S	1	0	1	94	0	0	0
E	0	0	0	0	99	1	0
C	0	0	0	0	0	35	0
No Answer	1	0	1	1	1	1	5
Total N	105	32	46	95	101	37	5

Note. $N = 421$.

Table 6. Cross Classification of Self-Reported RIASEC High-Point Code with Actual High-Point Code for School Sample

Self	Actual						
	R	I	A	S	E	C	No Answer
R	11	0	0	0	0	0	0
I	0	22	0	0	0	0	0
A	0	0	50	0	1	0	0
S	0	0	0	23	1	0	0
E	0	0	0	0	22	0	0
C	0	0	0	0	1	5	0
No Answer	0	0	2	1	1	0	1
Total N	11	22	52	24	25	5	1

Note. $N = 140$.

Table 7. Means, Standard Deviations, and Coefficient Alphas for Interest Profiler Short Form (P &P) for Incarcerated Sample

Incarcerated			
(N = 421)			
	<i>M</i>	<i>SD</i>	Alpha
R	3.45	2.55	0.76
I	2.53	2.63	0.83
A	2.86	2.46	0.78
S	4.02	2.72	0.79
E	4.20	2.70	0.79
C	2.69	2.76	0.85
Mean			0.80

Table 8. Profile Correlations of the Interest Profiler Short Form (P & P)

	Last Job	Career Aspiration
<i>Mean</i>	0.15	0.24
<i>SD</i>	0.44	0.43

Note. Incarcerated: $N = 332$ (Career Aspirations), $N = 326$ (Last Job). Interest profiles for last jobs, and career aspirations were based on O*NET occupational categories (coded from self-reported responses).

Table 9. RIASEC Scale Intercorrelations for the Interest Profiler Short Form (P & P) for Incarcerated Sample

	R	I	A	S	E	C
R	--					
I	0.31	--				
A	0.32	0.46	--			
S	0.26	0.45	0.49	--		
E	0.29	0.38	0.42	0.48	--	
C	0.33	0.32	0.29	0.46	0.50	--

Note. $N = 421$ (Incarcerated individuals). Randomization test: $CI = 0.61$ $p = 0.02$.

Table 10. Two-Dimensional MDS Coordinate Values for the Interest Profiler Short Form (P & P) for Incarcerated Sample

	I	II
R	-1.54	-0.02
I	-0.03	0.95
A	0.43	0.67
S	0.67	0.02
E	0.41	-0.55
C	0.06	-1.08

Note. $N = 421$, $Stress = 0.05$, $RSQ = 0.98$.

Table 11. Circular Unidimensional Scaling Coordinate Values for the RIASEC Scales of the Interest Profiler Short Form (P & P) for Incarcerated Sample

	I	II
R	0.00	0.10
I	0.09	0.04
A	0.07	-0.07
S	0.01	-0.10
E	-0.05	-0.08
C	-0.09	-0.05

Note. $N = 421$, $VAF = 0.90$.

Table 12. Cross Classification of the RIASEC High-Point Codes for the Interest Profiler Short Form (P & P) and Career Aspirations for Incarcerated Sample

		Career Aspiration							
Interest Profiler		Count							
Profiler	R	I	A	S	E	C	Total N	Total %	
R	61	3	1	3	9	3	80	23.95	
I	9	8	1	5	3	2	28	8.38	
A	12	1	8	2	4	4	31	9.28	
S	23	3	4	39	12	9	90	26.95	
E	31	3	5	15	18	6	78	23.35	
C	10	1	0	5	8	3	27	8.08	
Total N	146	19	19	69	54	27	334	100.00	
Total %	43.71	5.69	5.69	20.66	16.17	8.08	100.00		
		Row Percent							
	R	I	A	S	E	C			
R	76.25	3.75	1.25	3.75	11.25	3.75			
I	32.14	28.57	3.57	17.86	10.71	7.14			
A	38.71	3.23	25.81	6.45	12.90	12.90			
S	25.56	3.33	4.44	43.33	13.33	10.00			
E	39.74	3.85	6.41	19.23	23.08	7.69			
C	37.04	3.70	0.00	18.52	29.63	11.11			

(continued)

(Table 12 continued)

	Column Percent					
	R	I	A	S	E	C
R	41.78	15.79	5.26	4.35	16.67	11.11
I	6.16	42.11	5.26	7.25	5.56	7.41
A	8.22	5.26	42.11	2.90	7.41	14.81
S	15.75	15.79	21.05	56.52	22.22	33.33
E	21.23	15.79	26.32	21.74	33.33	22.22
C	6.85	5.26	0.00	7.25	14.81	11.11

Table 13. Gender Difference (*d*-values) by RIASEC Scale Score for Incarcerated Sample

	R	I	A	S	E	C
<i>d</i> -value	-1.10	0.26	-0.07	0.58	0.24	0.37

Note. *d*-values represent standardized difference scores between male and female participants. Negative values indicate stronger male preferences; positive values indicate stronger female preferences.

FIGURES

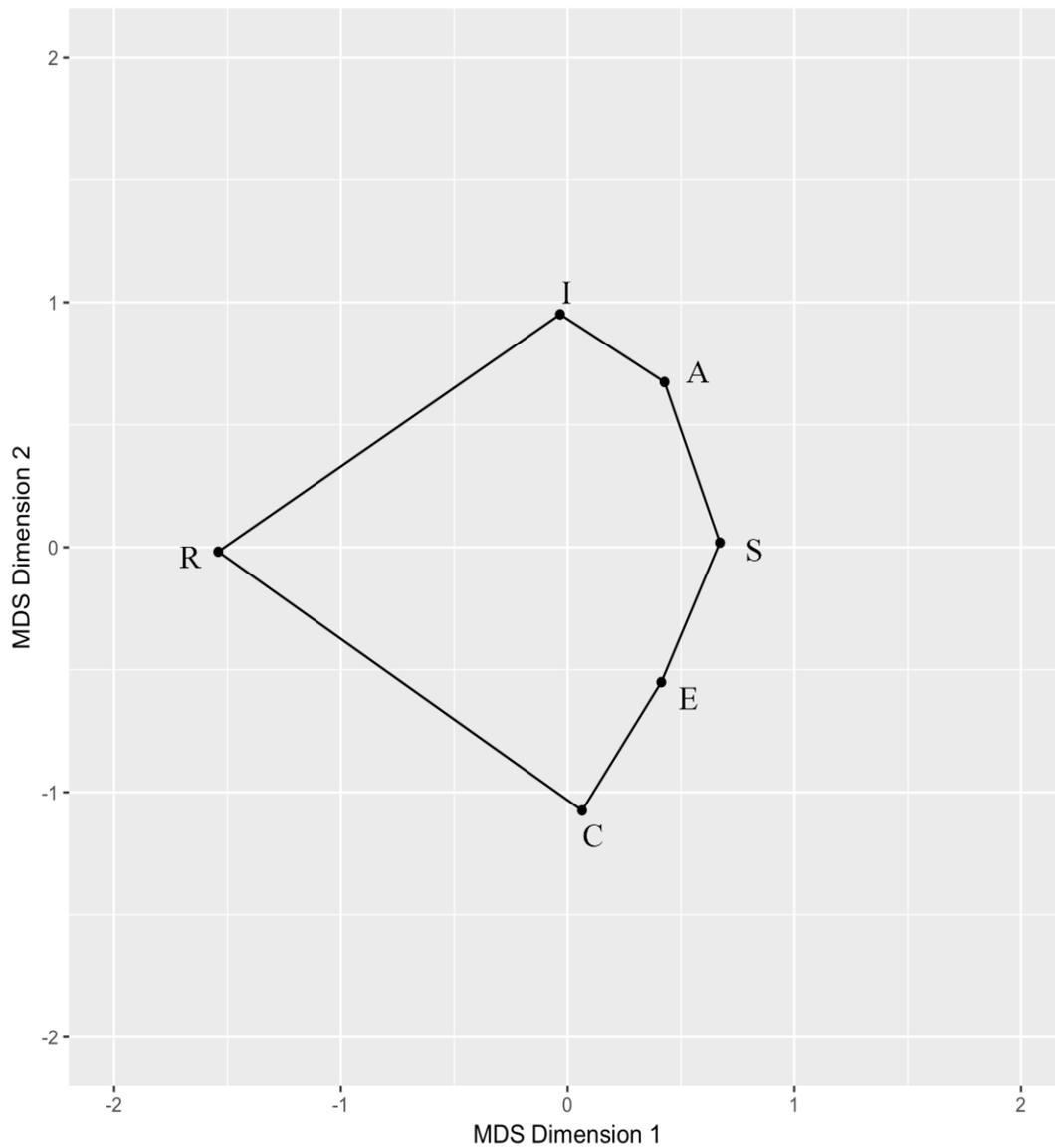


Figure 1. Multidimensional Scaling Solution for the Interest Profiler Short Form (P & P) for Incarcerated Sample.

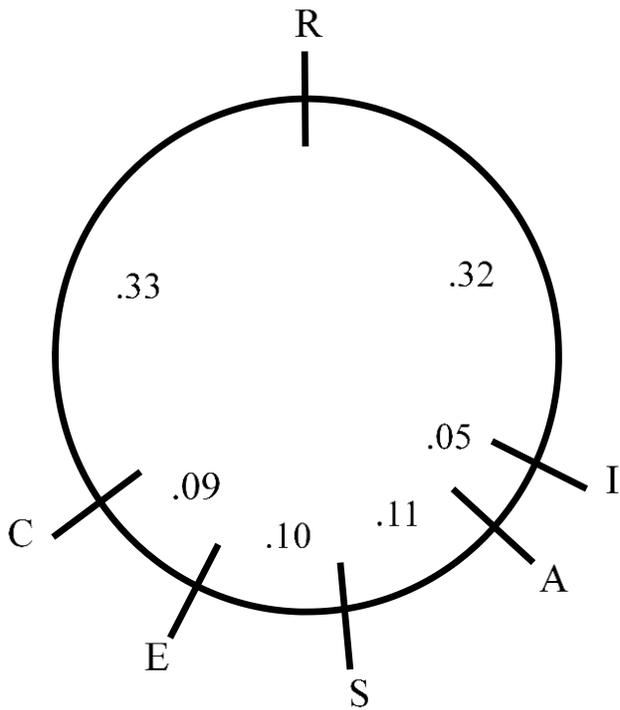


Figure 2. Circular Unidimensional Scaling Solution for the Interest Profiler Short Form (P & P) for Incarcerated Sample. 1 = Realistic; 2 = Investigative; 3 = Artistic; 4 = Social; 5 = Enterprising; 6 = Conventional.

Appendix A. Demographic and Career Plans Survey Items

Survey Items for Incarcerated Sample

1. **Are you male or female? (Mark one box)**
 - Male
 - Female
 2. **In what year were you born? ____ ____ ____ ____**
 3. **Are you currently a student? (Mark one box)**
 - Full-time student
 - Part-time student
 - Not currently a student
 4. **What is the highest level of education you have completed? (Mark one box)**
 - Less than high school degree
 - High school degree or equivalent (e.g., GED)
 - Some college, but no degree
 - Associate's Degree
 - Bachelor's Degree
 - Graduate degree
 5. **Are you Hispanic or Latino (Mark one box)**
 - Yes
 - No
 6. **What is your race? (Mark ONE or MORE boxes)**
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Native Hawaiian or Other Pacific Islander
 - White
 7. **Which of the following categories best describes your employment status? (Mark one box)**
 - Full-time employee (working 40 or more hours per week)
 - Part-time employee
 - Not employed currently
 - Retired
 8. **[LAST JOB] What is the title of your current or last job?**
 9. **How well did or does your job fit your interests? (Mark one box)**
 - Not at all
 - Somewhat
 - Moderately
 - Quite a bit
 - Extremely well
 10. **[CAREER ASPIRATION] If you could choose any job, what job do you think would best fit your interests?**
-

Appendix B. O*NET Interest Profiler Short Form Paper-and-Pencil Version

O*NET INTEREST PROFILER SHORT FORM



Read the 60 work activities below. Place a check in the box by the activities you would like to do. **Do not** think about how much education/training is needed or how much money you will make! Count the number of checks for each shaded section and write that total in the box to the right of each section. These are your scores for each interest area.

<input type="checkbox"/> Build kitchen cabinets <input type="checkbox"/> Lay brick or tile <input type="checkbox"/> Repair household appliances <input type="checkbox"/> Raise fish in a fish hatchery <input type="checkbox"/> Assemble electronic parts	<input type="checkbox"/> Drive a truck to deliver packages to offices and homes <input type="checkbox"/> Test the quality of parts before shipment <input type="checkbox"/> Repair and install locks <input type="checkbox"/> Set up and operate machines to make products <input type="checkbox"/> Put out forest fires	Total <input style="width: 50px; height: 30px;" type="text"/>
Realistic checks =		
<input type="checkbox"/> Develop a new medicine <input type="checkbox"/> Study ways to reduce water pollution <input type="checkbox"/> Conduct chemical experiments <input type="checkbox"/> Study the movement of planets <input type="checkbox"/> Examine blood samples using a microscope	<input type="checkbox"/> Investigate the cause of a fire <input type="checkbox"/> Develop a way to better predict the weather <input type="checkbox"/> Work in a biology lab <input type="checkbox"/> Invent a replacement for sugar <input type="checkbox"/> Do laboratory tests to identify diseases	Total <input style="width: 50px; height: 30px;" type="text"/>
Investigative checks =		
<input type="checkbox"/> Write books or plays <input type="checkbox"/> Play a musical instrument <input type="checkbox"/> Compose or arrange music <input type="checkbox"/> Draw pictures <input type="checkbox"/> Create special effects for movies	<input type="checkbox"/> Paint sets for plays <input type="checkbox"/> Write scripts for movies or television shows <input type="checkbox"/> Perform jazz or tap dance <input type="checkbox"/> Sing in a band <input type="checkbox"/> Edit movies	Total <input style="width: 50px; height: 30px;" type="text"/>
Artistic checks =		
<input type="checkbox"/> Teach an individual an exercise routine <input type="checkbox"/> Help people with personal or emotional problems <input type="checkbox"/> Give career guidance to people <input type="checkbox"/> Perform rehabilitation therapy <input type="checkbox"/> Do volunteer work at a non-profit organization	<input type="checkbox"/> Teach children how to play sports <input type="checkbox"/> Teach sign language to people who are deaf or hard of hearing <input type="checkbox"/> Help conduct a group therapy session <input type="checkbox"/> Take care of children at a day-care center <input type="checkbox"/> Teach a high-school class	Total <input style="width: 50px; height: 30px;" type="text"/>
Social checks =		
<input type="checkbox"/> Buy and sell stocks and bonds <input type="checkbox"/> Manage a retail store <input type="checkbox"/> Operate a beauty salon or barber shop <input type="checkbox"/> Manage a department within a large company <input type="checkbox"/> Start your own business	<input type="checkbox"/> Negotiate business contracts <input type="checkbox"/> Represent a client in a lawsuit <input type="checkbox"/> Market a new line of clothing <input type="checkbox"/> Sell merchandise at a department store <input type="checkbox"/> Manage a clothing store	Total <input style="width: 50px; height: 30px;" type="text"/>
Enterprising checks =		
<input type="checkbox"/> Develop a spreadsheet using computer software <input type="checkbox"/> Proofread records or forms <input type="checkbox"/> Install software across computers on a large network <input type="checkbox"/> Operate a calculator <input type="checkbox"/> Keep shipping and receiving records	<input type="checkbox"/> Calculate the wages of employees <input type="checkbox"/> Inventory supplies using a hand-held computer <input type="checkbox"/> Record rent payments <input type="checkbox"/> Keep inventory records <input type="checkbox"/> Stamp, sort, and distribute mail for an organization	Total <input style="width: 50px; height: 30px;" type="text"/>
Conventional checks =		

In the boxes below, write the names of the interest areas with the three highest scores. The first box is your highest or primary interest. If there are ties, choose the interest with activities that you think are the best fit for you.

1 2 3